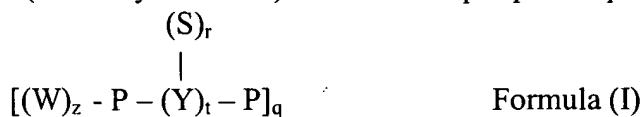


Amendments to the claims:

This listing of claims will replace all prior versions and listing of claims in the application:

Listing of Claims:

Claim 1 (currently amended) An isolated epitope comprising the formula (SEQ ID NO: 210)



Wherein:

W is any amino acid other than Aspartate and Glutamate

Y is any naturally occurring moiety that is capable of being sulfated is an amino acid selected from the group consisting of Tyrosine, Asparagine, Serine and Threonine

P is independently selected from the group consisting of (A)_m(A)_n(X)_u, or (X)_u(A)_n(A)_m, or (A)_n(X)_u(A)_m, or (A)_n(A)_m(X)_u, or (X)_u(A)_m(A)_n, or and (A)_m(X)_u(A)_n

S is sulfate or a sulfated molecule

X is any amino acid except Aspartate, Glutamate, or Tyrosine

A is independently selected from the group consisting of any negatively charged amino acid, or leucine, isoleucine, proline, phenylalanine, serine, or and glycine

q is 1 to 6

z is 0, 1, or 2

r is 0 or 1

t is 1, 2 or 3

u is 0 to 2

n is 0 to 3

m is 0 to 3

wherein if n = 0 then m >0; wherein if m = 0 then n >0; wherein if q is 1, r is 1, and if q is >1 at least one of Y is sulfated; and

further wherein the isolated epitope is capable of being bound by an a human antibody, antigen-binding fragment thereof, or complex thereof comprising at least one antibody or antigen-binding fragment thereof, and wherein the human antibody, antigen-binding

fragment thereof, or complex thereof comprises comprising a first hypervariable region comprising SEQ ID NO: 8.

Claim 2 (currently amended) The isolated epitope of claim 1 wherein Y further comprises the sulfated moiety is a peptido or glyco or lipo conjugate.

Claim 3 (currently amended) The isolated epitope of claim 1 wherein:

W is Glycine,

at least one Y is a peptido conjugate of Tyrosine or a glyco conjugate of Asparagine, Serine or Threonine

at least one A is Glutamate, γ Carboxy Glutamate or Aspartate

q is 1, 2, or 3.

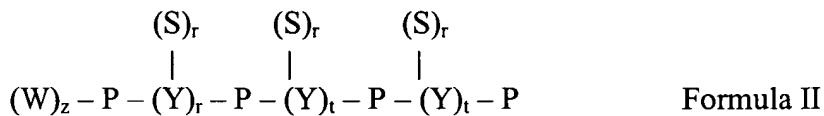
Claim 4 (currently amended) The isolated epitope of claim 3 wherein:

Y is a peptido conjugate of Tyrosine

q is 3

r is 1.

Claim 5 (currently amended) An isolated epitope comprising the formula



Wherein:

W is any amino acid other than Aspartate and Glutamate

Y is any naturally occurring moiety that is capable of being sulfated is an amino acid selected from the group consisting of Tyrosine, Asparagine, Serine and Threonine

P is independently selected from the group consisting of $(A)_m(A)_n(X)_u$, or $(X)_u(A)_n(A)_m$, or $(A)_n(X)_u(A)_m$, or $(A)_n(A)_m(X)_u$, or $(X)_u(A)_m(A)_n$, or and $(A)_m(X)_u(A)_n$

S is a sulfate or a sulfated molecule

X is any amino acid except Aspartate, Glutamate or Tyrosine

A is independently selected from the group consisting of any negatively charged amino acid, ~~or~~ leucine, isoleucine, proline, phenylalanine, serine, ~~or and~~ glycine
z is 0, 1, or 2
r is 0 or 1
t is 1, 2 or 3
u is 0 to 2
n is 0 to 3
m is 0 to 3

wherein if n = 0 then m > 0; wherein if m = 0 then n > 0; wherein at least one Y is sulfated; and

further wherein the isolated epitope is capable of being bound by ~~an~~ a human antibody, antigen-binding fragment thereof, or complex thereof comprising at least one antibody or antigen-binding fragment thereof, and wherein the human antibody, antigen-binding fragment thereof, or complex thereof comprises comprising a first hypervariable region comprising SEQ ID NO: 8.

Claim 6 (currently amended) The isolated epitope of claim 5 wherein Y further comprises ~~the sulfated moiety~~ is a peptido or glyco or lipo conjugate.

Claim 7 (currently amended) The isolated epitope of claim 5 wherein:

W is Glycine

at least one Y is a peptide peptido conjugate of Tyrosine or a glyco conjugate of Asparagine, Serine or Threonine

at least one A is Glutamate, γ Carboxy Glutamate or Aspartate, Leucine, Isoleucine, Proline, Phenylalanine, serine, or glycine.

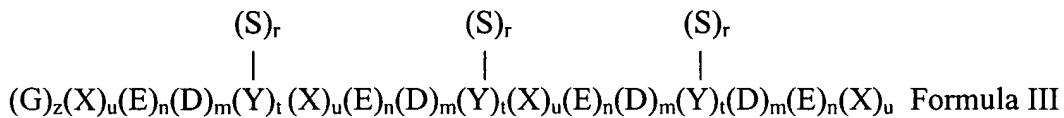
Claim 8 (currently amended) The isolated epitope of claim 7 wherein:

at least one Y is a peptido conjugate of Tyrosine,

~~q~~ is 3; and

~~r~~ is 1

Claim 9 (currently amended) An isolated epitope comprising the formula



Wherein:

- G is Glycine
E is Glutamate
D is Aspartate
Y is Tyrosine
S is sulfate or a sulfated molecule
X is any amino acid except ~~the above~~ Glycine, Glutamate, Aspartate, and Tyrosine,
z is 0, 1, or 2
t is 1, 2 or 3
r is 0 or 1
u is 0 to 2
n is 0 to 3
m is 0 to 3

wherein at least one Y is sulfated; wherein if n = 0 then m > 0; wherein if m = 0 then n > 0; and further wherein the isolated epitope is capable of being bound by ~~an~~ a human antibody, antigen-binding fragment thereof, or complex thereof comprising at least one antibody or antigen-binding fragment thereof, and wherein human antibody, antigen-binding fragment thereof, or complex thereof comprises comprising a first hypervariable region comprising SEQ ID NO: 8.

Claim 10 (previously presented) The isolated epitope of claim 9 wherein r is 1.

Claim 11 (currently amended) The isolated epitope of any one of claims 1-8, further comprising ~~wherein the naturally occurring moiety that is capable of being sulfated Y comprises~~ a lipid, carbohydrate, peptide, glycolipid, glycoprotein, lipoprotein, and/or lipopolysaccharide molecule.

Claim 12 (currently amended) A synthetic homolog or mimetic of the isolated epitope of any one of claims 1-10.

Claim 13 (previously presented) The isolated epitope of any one of claims 1-10, wherein the isolated epitope comprises at least one post-translational modification in addition to sulfation.

Claim 14-152 (canceled).

Claim 153 (currently amended) An isolated epitope of claim 9 wherein the epitope comprises comprising GP1 $\beta\alpha$ amino acid sequence Tyr 276 to Glu 282, wherein at least one of amino acids 276, 278 and 279 is sulfated.

Claim 154 (previously presented) The isolated epitope of claim 153 further comprising GP1 $\beta\alpha$ amino acids 283-285.

Claim 155 (canceled)

Claim 156 (currently amended) An isolated epitope of claim 9 wherein the epitope comprises a comprising GP1 $\beta\alpha$ N-terminal peptide having an apparent molecular weight of about 40 KDa, said peptide comprising an epitope having the sequence YDYYPEE (SEQ ID NO: 266), wherein at least one tyrosine residue in the epitope is sulfated.

Claim 157 (currently amended) An isolated GP1 $\beta\alpha$ peptide consisting of amino acids 1 through 282, wherein at least one of amino acids 276, 278 and 279 is sulfated.[[.]]

Claim 158-163 (canceled)

Please add the following new claim:

Claim 164 (new) An isolated epitope of GP1 $\beta\alpha$ comprising the amino acid sequence of YDYYPEE (SEQ ID NO: 269), wherein the first tyrosine residue in the epitope is sulfated, and wherein the isolated epitope is capable of being bound by a human antibody, antigen-binding fragment thereof, or complex thereof comprising at least one antibody or antigen-binding fragment thereof, and wherein the human antibody, antigen-binding fragment thereof, or complex thereof comprises a first hypervariable region comprising SEQ ID NO: 8.